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10/562,394	05/16/2006	Mark Richard Norton	P07962US02/MP	8530
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EXAMINER				
KING, FELICIA C				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/562,394

Applicant(s)

NORTON ET AL.

Examiner

FELICIA C. KING

Art Unit

1794

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 27-37 and 41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 is/are allowed.
- 6) ☒ Claim(s) 4-10, 27-37 and 41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-06)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is written in Response to Applicant's Remarks dated 11/13/09.
Claim 1-10, 27-37 and 41 are currently pending.

An examiner initiated interview was conducted on 1/27/10 indicating allowable subject matter and offering suggestions on amending the claims in preparation for allowance. However, Attorney declined.

Claim Objections

1. Claim 9 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 33. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Allowable Subject Matter

2. Claims 1-3 are allowable.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. **Claims 4-7, 9, 28-33, 38-41 are rejected under 35 U.S.C. 103(a)** as being unpatentable over Sidoti et al. (US 4,590,085) in view of Boniello (US 4,867,992).

5. **Regarding Claims 4, 9, and 33:** Sidoti discloses the process of adding linalool to coffee to enhance the flavor of coffee [col. 1, lines 38-40] but does not explicitly disclose the process where the substance is added to roast or ground coffee having at least 25% higher level of linalool than naturally occurring level of linalool in the whole bean or ground coffee or the specific amounts in ug/kg. However, Boniello discloses a method for adding 50 ppm

Art Unit: 1794

- 400 ppm diacetyl to a roast and ground coffee where the brew will produce a coffee containing 0.1 to 1.5 ppm on an as consumed basis [col. 4, lines 63-68 and 43-46].

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Sidoti and Boniello before him or her to modify the addition of linalool to coffee in Sidoti to include the process in Boniello because both linalool and diacetyl are flavor compounds naturally occurring in coffee that can be added to augment flavors where the flavors are present but deficient or there is a desire to further enhance them [Sidoti col. 1, lines 35-37; Boniello col. 1, lines 27-32]. It is well known in the art that diacetyl imparts a buttery flavor [Boniello col. 4, lines 62-63] and that linalool generally enhances the flavor of coffee [Sidoti col. 1, lines 38-40]. Therefore it would have been obvious to combine the above references because linalool is a flavoring agent much like diacetyl and one wishing to enhance the flavor of coffee would apply the linalool composition to roast and ground coffee in order to brew coffee having an enhanced flavor.

Further although specific amounts of linalool added to the coffee beverage are not recited, "Knowing that an additive will cause a certain result (in this case, linalool causes change in flavoring), one would specifically measure the result and control the amount of said additive added there to in relation to the amount of result (degree of flavoring in this case) as desired." *In re Skoner*, 186 USPQ 80

Regarding Claim 5: Sidoti discloses the process of adding linalool to coffee to enhance the flavor of coffee but does not disclose the process where the substance is added to roast or ground coffee having at least 50% higher level of linalool than naturally occurring level of linalool in the whole bean or ground coffee. Boniello discloses a method for adding

Art Unit: 1794

50 ppm - 400 ppm of diacetyl to a roast and ground coffee where the brew will produce a coffee containing 0.1 to 1.5 ppm on an as consumed basis [col. 4, lines 63-68 and 43-46].

See Reasoning under "Regarding Claim 4".

Regarding Claim 6: Sidoti discloses the process of adding linalool to coffee to enhance the flavor of coffee but does not disclose the process where the substance is added to roast or ground coffee having at least 100% higher level of linalool than naturally occurring level of linalool in the whole bean or ground coffee. Boniello discloses a method for adding 50 ppm - 400 ppm of diacetyl to a roast and ground coffee where the brew will produce a coffee containing 0.1 to 1.5 ppm on an as consumed basis [col. 4, lines 63-68 and 43-46].

See Reasoning under "Regarding Claim 4".

Regarding Claim 7: Sidoti discloses the process of adding linalool to coffee but does not explicitly disclose adding the linalool to whole bean coffee. However, Boniello discloses adding diacetyl flavoring agent to green coffee [col. 4, lines 38-40] where examiner has interpreted green coffee as whole bean coffee.

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Sidoti and Boniello before him or her to add linalool to whole bean coffee because consumers often purchase coffee in whole bean form in order to help retain the flavoring of the coffee. Further, Sidoti acknowledges that advancements in "keeping techniques" are due to the average consumers' sensory perceptions and that packaging processes and preservatives etc... are factors in causing flavor deficiency in food products [col. 1, lines 26-34]. Therefore it would have been obvious to add linalool to whole bean coffee. The prior art does not explicitly disclose whole bean coffee. However, as Boniello uses like materials in a like manner as claimed, it would therefore be expected that

Art Unit: 1794

the whole green coffee or the roasted and ground coffee will have the same characteristics claimed, particularly where the flavoring agent is merely coating the product, absent a showing of unexpected results.

Regarding Claims 28 - 31: Sidoti discloses the process of adding linalool to coffee but does not explicitly disclose where linalool is added to increase its concentration to at least 6,000 ug/kg, at least 8,000 ug/kg, at least 10,000 ug/kg, at least 16,000 ug/kg whole bean or ground coffee respectively. Boniello discloses a roast and ground coffee composition where a flavorant, diacetyl, is added in the amount of 50 ppm to 400 ppm [col. 4, lines 63-65] but does not disclose linalool as the coffee flavorant.

See Reasoning under Claim 4.

However, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the linalool desired in the final product for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272.

Further, although specific amounts of linalool added to the coffee beverage are not recited, "Knowing that an additive will cause a certain result (in this case, linalool causes change in flavoring), one would specifically measure the result and control the amount of said additive added there to in relation to the amount of result (degree of flavoring in this case) as desired." *In re Skoner*, 186 USPQ 80.

Regarding Claim 32: Sidoti discloses the process of adding linalool to coffee but does not explicitly disclose where the linalool is added to whole bean. However, Boniello discloses adding diacetyl flavoring agent to green coffee [col. 4, lines 38-40] where examiner has interpreted green coffee as whole bean coffee.

See reasoning under “Regarding Claim 7”.

Regarding claim 41: Sidoti discloses the process of adding linalool to coffee but does not explicitly disclose a coffee composition comprising roast whole bean coffee coated with linalool. However, Boniello discloses mixing the flavoring agent with green coffee [col. 1, lines 19-21] and roast and ground coffee [col. 4, lines 62-63].

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Sidoti and Boniello before him or her to add linalool to whole bean coffee because consumers often purchase coffee in whole bean form in order to help retain the flavoring of the coffee. Further, Sidoti acknowledges that advancements in “keeping techniques” are due to the average consumers’ sensory perceptions and that packaging process and preservatives etc... are factors in the flavor deficiency in food products [col. 1, lines 26-34]. Therefore it would have been obvious to add linalool to whole bean coffee. The prior art does not explicitly disclose roasted whole bean coffee. However, as Boniello uses like materials in a like manner as claimed, it would therefore be expected that the whole green coffee or the roasted and ground coffee will have the same characteristics claimed, particularly where the flavoring agent is merely coating the product, absent a showing of unexpected results.

6. Claims 8, 10, 27, 34, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sidoti et al. (US 4,590,085) in view of Boniello (US 4,867,992) and in further view of Marmo et al. (US 4,311,720).

Regarding Claims 8 and 10: Sidoti discloses the process of adding linalool to coffee but does not explicitly disclose dissolving the flavorant in an oil carrier. Boniello discloses adding flavor to coffee as discussed above. However, Marmo discloses a flavor oil that is dispersed in a carrier [col. 5, lines 38-40].

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Sidoti, Boniello and Marmo before him or her to modify the application of the flavoring to the unprocessed bean in Boniello to incorporate a flavor oil carrier because although linalool has good flavor retention in heated beverages, the carrier can help maintain and control the release of the flavor agent [Marmo col. 6, lines 15-26, 38-43].

Regarding Claim 27: Sidoti discloses the process of adding linalool to coffee but does not explicitly disclose linalool in encapsulated form. Boniello discloses adding flavor to coffee as discussed above. However, Marmo teaches an encapsulated flavorant [col. 2, 5-10].

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Sidoti, Boniello, and Marmo before him or her to modify the application of the flavoring to the dry soluble coffee product in Boniello to incorporate an encapsulated flavorant because although linalool has good flavor retention, Marmo suggests that it may be advantageous to encapsulate flavorants for use in consumable products consumed at greater than ambient temperatures [col. 2, lines 15-20] such as hot beverages.

Regarding Claim 34: Sidoti discloses the process of adding linalool to coffee but does not explicitly disclose a coffee composition comprising roast and ground coffee and encapsulated linalool. However, Boniello discloses a roast and ground coffee composition as discussed above and Marmo teaches an encapsulated linalool as discussed above.

See Reasoning under Claim 27.

Regarding Claim 36: Sidoti discloses the process of adding linalool to coffee but does not explicitly disclose a method for preparing coffee at elevated level by infusing green coffee with liquid form of linalool in a carrier consisting of polar or non polar solvents. However, Boniello discloses green coffee infused with liquid flavoring agent [col.1, lines 19-

Art Unit: 1794

21] but does not disclose linalool in a carrier consisting of polar or non polar solvents.

However, Marmo discloses a flavor agent that is dispersed in polar carriers such as alcohol and water [col. 6, lines 54-59].

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Sidoti, Boniello and Marmo and before him or her to modify the application of the flavoring to the unprocessed bean in Boniello to incorporate a flavor oil carrier and to further disperse the agent into a polar solvent such as water because although linalool has good flavor retention in heated beverages, the carrier can help maintain and control the release of the flavor agent [Marmo col. 6, lines 15-26] further, coffee compositions are generally composed of water and coffee substrates therefore it would have been obvious to use water as a carrier for the flavor oils.

7. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sidoti et al. (US 4,590,085) in view of Boniello (US 4,867,992), Marmo et al. (US 4,311,720), and in further view of Steinke (US 4,698,264).

Regarding Claim 35: Sidoti discloses the process of adding linalool to coffee but does not explicitly disclose maltodextrin, Gum Arabic, and tricalcium phosphate to encapsulate flavor agents. Boniello and Marmo disclose as discussed above. However, Steinke discloses maltodextrin [col.2, lines 35-37], Gum Arabic [col. 6, lines 15-19], and tricalcium phosphate [col. 3, lines 33-35] to encapsulate flavor agents.

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Sidoti, Boniello, Marmo, and Steinke before him or her, to modify the encapsulation form to include the maltodextrin, Gum Arabic and tricalcium phosphate because Steinke utilizes agents similar to those used in Marmo. For example, Marmo uses dextrin, gum acacia, and modified food starch as the encapsulating agents [col.

Art Unit: 1794

17, lines 41-43]. Maltodextrin and dextrin are commonly used as bulking agents [Steinke col. 3, lines 47-49]. The purpose of the maltodextrin is to initiate the release of the flavoring agent [Steinke col.2, lines 45-46]. The purpose of the tricalcium phosphate is to prolong the release of the flavoring agent [Steinke col. 2, lines 47-49]. The gum arabic works to aid in the entrapment of oils [Steinke col. 6, lines 15-19]. Therefore, it would have been obvious to one of ordinary skill in the art to utilize the encapsulating agents in Steinke to encapsulate the flavoring agent linalool because a similar group of agents is used in Marmo to encapsulate linalool.

8. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sidoti et al. (US 4,590,085), Boniello et al (US 4, 867,992), Marmo et al. (US 4,311,720) as applied to claim 36 and in further view of Balakrishnan (US 6,299,926).

Regarding Claim 37: Sidoti discloses the process of adding linalool to coffee but does not explicitly disclose heating green coffee and linalool between 20°C and 95°C for 15 minutes to 24 hours. Boniello and Marmo disclose as discussed above. However, Balakrishnan discloses a flavor composition where the flavoring agent is added between 10°C – 45°C for 10 minutes to 24 hours [col. 2, lines 39-43].

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Sidoti, Boniello, Marmo, and Balakrishnan before him or her to modify the method to incorporate a time and temperature for the addition of the linalool to the green coffee because such time and temperature is optimal for the improvement of the aroma of the product [col. 1, lines 65-67].

Further regarding time and temperature, one having ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by Balakrishnan overlap the instantly claimed

Art Unit: 1794

proportions and therefore are considered to establish a prima facie case of obviousness. *In re Malagari* 182 USPQ 549,553.

Response to Arguments

9. Applicant's arguments, see pg 1-2 of the Remarks and Declaration, filed 11/13/09, with respect to claims 1-3 have been fully considered and are persuasive. The rejection of claims 1-3 has been withdrawn.
10. Claims 11-26, 38-40 have been cancelled.
11. Applicant's arguments filed 11/13/09 regarding the rejection under have been fully considered but they are not persuasive.

The rejection is maintained regarding the rejection of claims 4-7 because by requiring that the addition of linalool be at least 25%, or 50%, or 100%, Applicant is claiming that the coffee product would contain at least 125 ug/kg, or 150 ug/kg, or 200 ug/kg linalool. The limitation that the linalool level be at least 25% higher than naturally occurring coffee is considered unpatentable where the percentage amounts are within the known naturally occurring levels of Arabica coffee. As disclosed by Applicant, Robusta coffee contains around 100ug/kg linalool and Arabica coffee contains as high as 3100 ug/kg linalool [Applicant's Declaration filed 11/13/09, pg. 2, #3; Appendix A]. Further, this amount is significantly lower than copending claims 1-3 where the amounts contained in the coffee is at least 6,000 ug/kg, 8,000 ug/kg or 16,000 ug/kg. This is especially relevant where the purpose of Applicant's invention is to improve the flavor of lower quality coffee to mimic the characteristics of more expensive or rare coffees [Applicant's Declaration filed 3/26/09] and where it is known that Robusta coffee having a linalool level of around 100 ug/kg is considered low quality coffee and that Arabica coffee, having a linalool level of at most 3100 ug/kg is considered high quality coffee as declared by applicant.

Examiner maintains the rejection of claims 4-10, 27-37 and 41 under Sidoti and secondary references Boniello, Marmo, Steinke, and Balakrishnan, because Sidoti satisfies the requirement that linalool is added to coffee product to enhance flavor in coffee as discussed in this and the prior office action. Further Boniello discloses diacetyl, another well known naturally occurring coffee flavor compound that is added to a coffee product in particular quantities. Examiner maintains that it would have been obvious to look to the disclosure in Boniello since Boniello discloses adding amounts of diacetyl that would provide a favorable flavoring effect to a coffee beverage.

Further Applicant, asserts that nothing in the prior art indicates that adding linalool would have driven consumer liking. Examiner disagrees as the Sidoti reference states that linalool has been added to coffee in order to enhance flavor. Enhancing the flavor of compositions generally is performed in response to a deficiency in the organoleptic appeal of consumable products. Therefore it would have been obvious to add linalool to a coffee beverage for that purpose, especially where such an addition is already known.

As touched upon during the Examiner Interview, Examiner appreciates that the meaning of claim 4 could be subject to interpretation. However, as written, the claims appear to be drawn to a coffee product where the amount of linalool added is in excess of the naturally occurring amounts of linalool found in coffee beans. Even if taken in light of the addition of linalool added to the bean being 25% higher than in the coffee bean relative to itself, the amount still falls within the range of a naturally occurring bean where Robusta is around 100 ug/kg and up to 3100 ug/kg in Arabica as disclosed by the Applicant. Therefore if Robusta beans had at least 25% more linalool added they would still be within the naturally occurring range of Arabica beans at a max of 3100ug/kg. This is especially relevant where the Applicant has not disclosed the type of coffee bean used in the process.

Art Unit: 1794

However, this Office Action has been made **Non-final** due to improper rejection of dependent claim 37. Claim 37 was dependent upon claim 36 which was rejected under the Marmo reference. In the rejection of Claim 37 the previous Office Action dated 6/9/09 failed to include the Marmo reference, although in the Office Action dated 12/19/08 the Marmo reference was properly included.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FELICIA C. KING whose telephone number is (571)270-3733. The examiner can normally be reached on Mon- Thu 7:30 a.m.- 5:00 p.m.; Fri 7:30 a.m. - 4:00 p.m. alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. K./
Examiner, Art Unit 1794

/Jennifer McNeil/
Supervisory Patent Examiner, Art Unit 1794